Release Schedule

11/12/2008

North/Central Delta Regional Salmon Outmigration Study

Study day	Date	Day of Week	Time Block	NMFS.11.12.08	open (pst)	close (pst)		Sac Rel Surv	Sac Rel 3D	GS Rel	Ryde Rel	Natural constraints	Sunrise (pst)	Sunset (pst)
1	10-Nov	mon	Pilot	1/2 open		7:00 a.m.						Smolted?		
2	11-Nov	tues	Pilot	1/2 open								Smolted?		
3	12-Nov	wed	Pilot	Night Closure	7:45 a.m.	3:55 p.m.	Full Moon					Smolted?	6:45 a.m.	4:55 p.m.
4	13-Nov	thur	1	Night Closure	7:46 a.m.	3:54 p.m.	Hydrodynamic transients settling time					Smolted?	6:46 a.m.	4:54 p.m.
5	14-Nov	fri	1	Night Closure	7:47 a.m.	3:53 p.m.		**173**	**113**			Smolted?	6:47 a.m.	4:53 p.m.
6	15-Nov	sat	1	Night Closure	7:48 a.m.	3:52 p.m.						Smolted?	6:48 a.m.	4:52 p.m.
7	16-Nov	sun	1	Night Closure	7:49 a.m.	3:52 p.m.				**104**	**70**	Smolted?	6:49 a.m.	4:52 p.m.
8	17-Nov	mon	1	Night Closure	7:51 a.m.	3:51 p.m.		**173**	**113**			Smolted?	6:51 a.m.	4:51 p.m.
9	18-Nov	tues	1	Night Closure	7:52 a.m.	3:50 p.m.			1			Smolted?	6:52 a.m.	4:50 p.m.
10	19-Nov	wed	1	Night Closure	7:53 a.m.	3:50 p.m.			2	**104**	**69**	Smolted?	6:53 a.m.	4:50 p.m.
11	20-Nov	thur	1	Night Closure	7:54 a.m.	3:49 p.m.			3		1	Smolted?	6:54 a.m.	4:49 p.m.
12	21-Nov	fri	1	Night Closure	7:55 a.m.	3:49 p.m.			4		2	Smolted?	6:55 a.m.	4:49 p.m.
13	22-Nov	sat	1	Night Closure	7:56 a.m.	3:48 p.m.			5		3	Smolted?	6:56 a.m.	4:48 p.m.
14	23-Nov	sun	1	Night Closure	7:57 a.m.	3:48 p.m.			6		4	Smolted?	6:57 a.m.	4:48 p.m.
15	24-Nov	mon	1	Night Closure	7:58 a.m.	3:47 p.m.			7		5	Smolted?	6:58 a.m.	4:47 p.m.
16	25-Nov	tues	1	Night Closure	7:59 a.m.	3:47 p.m.	Thanksgiving Break		8		6	Smolted?	6:59 a.m.	4:47 p.m.
17	26-Nov	wed	1	Night Closure	8:00 a.m.	3:46 p.m.	Thanksgiving Break		9		7	Smolted?	7:00 a.m.	4:46 p.m.
18	27-Nov	thur	1	Night Closure	8:01 a.m.	3:46 p.m.	Thanksgiving Break	New Moon			8	Smolted?	7:01 a.m.	4:46 p.m.
19	28-Nov	fri	1	Night Closure	8:02 a.m.	3:46 p.m.	Thanksgiving Break		11		9	Smolted?	7:02 a.m.	4:46 p.m.
20	29-Nov	sat	1	DCC Open	8:02 a.m.		Hydrodynamic transients settling time					Sweet Spot		
21	30-Nov	sun	1	DCC Open				**173**	**113**			Sweet Spot		
22	1-Dec	mon	1	DCC Open								Sweet Spot		
23	2-Dec	tues	1	DCC Open						**104**	**69**	Sweet Spot		
24	3-Dec	wed	1	DCC Open				**173**	**113**			Sweet Spot		
25	4-Dec	thur	1	DCC Open					1			Sweet Spot		
26	5-Dec	fri	1	DCC Open					2	**104**	**69**	Sweet Spot		
27	6-Dec	sat	1	DCC Open					3		1	Sweet Spot		
28	7-Dec	sun	1	DCC Open					4		2	Sweet Spot		
29	8-Dec	mon	1	DCC Open					5		3	Sweet Spot		
30	9-Dec	tues	1	DCC Open					6		4	Sweet Spot		
31	10-Dec	wed	1	DCC Open		Full Moon			7		5	Sweet Spot		
32	11-Dec	thur	1	DCC Open					8		6	Sweet Spot		
33	12-Dec	fri	1	DCC Open					9		7	Sweet Spot		
34	13-Dec	sat	2	Gate Closed			Hydrodynamic transients settling time					Sweet Spot		
35	14-Dec	sun	2	Gate Closed				**173**	**113**			Sweet Spot		
36	15-Dec	mon	2	Gate Closed								Sweet Spot		
37	16-Dec	tues	2	Gate Closed						**104**	**69**	Sweet Spot		
38	17-Dec	wed	2	Gate Closed				**173**	**113**			Sweet Spot		
39	18-Dec	thur	2	Gate Closed					1			Sweet Spot		
40	19-Dec	fri	2	Gate Closed					2	**104**	**69**	Sweet Spot		
41	20-Dec	sat	2	Gate Closed					3		1	Sweet Spot		
42	21-Dec	sun	2	Gate Closed					4		2	Sweet Spot		
43	22-Dec	mon	2	Gate Closed					5		3	Sweet Spot		
44	23-Dec	tues	2	Gate Closed			Christmas Break		6		4	Sweet Spot		
45	24-Dec	wed	2	Gate Closed			Christmas Break		7		5	Sweet Spot		
46	25-Dec	thur	2	Gate Closed			Christmas Break		8		6	Sweet Spot		
47	26-Dec	fri	2	Gate Closed			Christmas Break		9		7	Sweet Spot		
48	27-Dec	sat	2	Gate Closed		New Moon	Christmas Break		10		8	Sweet Spot		
49	28-Dec	sun	2	Gate Closed			Christmas Break		11		9	Sweet Spot		
50	29-Dec	mon	2	Gate Closed			Hydrodynamic transients settling time					Hydrology?		
51	30-Dec	tues	2	Gate Closed				**173**	**113**			Hydrology?		
52	31-Dec	wed	2	Gate Closed								Hydrology?		
53	1-Jan	thur	2	Gate Closed						**104**	**69**	Hydrology?		
54	2-Jan	fri	2	Gate Closed				**173**	**113**			Hydrology?		
55	3-Jan	sat	2	Gate Closed					1			Hydrology?		
56	4-Jan	sun	2	Gate Closed					2	**104**	**69**	Hydrology?		
57	5-Jan	mon	2	Gate Closed					3		1	Hydrology?		
58	6-Jan	tues	2	Gate Closed					4		2	Hydrology?		
59	7-Jan	wed	2	Gate Closed					5		3	Hydrology?		
60	8-Jan	thur	2	Gate Closed					6		4	Hydrology?		
61	9-Jan	fri	2	Gate Closed					7		5	Hydrology?		

62	10-Jan	sat	2	Gate Closed			8	6	Hydrology?
63	11-Jan	sun	2	Gate Closed			9	7	Hydrology?
64	12-Jan	mon	3	Gate Closed	Hydrodynamic transients settling time				
65	13-Jan	tues	3	Gate Closed	**173**	**113**			
66	14-Jan	wed	3	Gate Closed					
67	15-Jan	thur	3	Gate Closed			**103**	**69**	
68	16-Jan	fri	3	Gate Closed	**173**	**113**			
70	17-Jan	sat	3	Gate Closed			1		
71	18-Jan	sun	3	Gate Closed			2	**103**	**69**
72	19-Jan	mon	3	Gate Closed			3	1	
73	20-Jan	tues	3	Gate Closed			4	2	
75	21-Jan	wed	3	Gate Closed			5	3	
76	22-Jan	thur	3	Gate Closed			6	4	
77	23-Jan	fri	3	Gate Closed			7	5	
78	24-Jan	sat	3	Gate Closed			8	6	
80	25-Jan	sun	3	Gate Closed			9	7	
81	26-Jan	mon	3	Gate Closed	Hydrodynamic transients settling time				
82	27-Jan	tues	3	Gate Closed	**172**	**113**		9	
83	28-Jan	wed	3	Gate Closed			1	10	
84	29-Jan	thur	3	Gate Closed			2	**103**	**69**
85	30-Jan	fri	3	Gate Closed			3	1	
86	31-Jan	sat	3	Gate Closed	**172**	**113**		2	
87	1-Feb	sun	3	Gate Closed			1	3	
88	2-Feb	mon	3	Gate Closed			2	**103**	**69**
89	3-Feb	tues	3	Gate Closed			3	1	
90	4-Feb	wed	3	Gate Closed			4	2	
91	5-Feb	thur	3	Gate Closed			5	3	
92	6-Feb	fri	3	Gate Closed			6	4	
93	7-Feb	sat	3	Gate Closed			7	5	
94	8-Feb	sun	3	Gate Closed			8	6	
95	9-Feb	mon	3	Gate Closed			9	7	
96	10-Feb	tues	3	Gate Closed			10	8	
97	11-Feb	wed	3	Gate Closed			11	9	
98	12-Feb	thur	3	Gate Closed			12	10	
99	13-Feb	fri	3	Gate Closed			13	11	
100	14-Feb	sat	3	Gate Closed			14	12	

Gate operations notes:
Gates take 1/2 hour to reach a steady state - thus to be clear
(1) Open times represent the initiation of operation (e.g. push the button),
(2) Closed times indicate end of operation (e.g. gates fully closed)

Notes:

1. From November 1 through January 31. Gates will beclosed for a total of **up to** 45 days for fisheries protection.
2. From February 1 through May 20. Gates will be closed.
3. Fisheries folks (White, Oppenhimer, Green) agreed to "count" nighttime closure as full day closure at 9/22 meeting.
4. The majority of the winter run juveniles typically migrate past the vicinity of the DCC gates in late December (Alice Low)
5. Minimum elapsed time for a given DCC operation - 9 days.
   This is the Est. time for Sac released fish to "clear" north delta (into Cache Sl.) and the Mokelumne system
   (e.g. San Joaquin) at low Sacramento River flow rates
6. A day after each change in DCC gate position is needed for regional scale hydrodynamic transients to settle.
   (e.g. the system takes some time to reach steady state after the gates are moved.)
7. Ryde and Georgiana releases are offset by one day so that these fish are placed in the "same" water as the Sac release
   (e.g. assume ~1 day travel time from Sac to Walnut Grove)

(a) SAC rel 3D - Study fish are programmed at a higher ping rate for greater spatial resolution in junction experiments
   (drawback - reduced tag life).

(b) Natural constraints:
   (1) Smolted? - Early in the year fish may not be fully smolted. Furthermore low turbidities, high water temperatures,
      very low flows may also confound results
   (2) Hydrology? - High flows may force closed operations.
   (3) "Sweet" s http://aa.usno.navy.mil/data/docs/RS_OneDay.php
      (e.g. fish fully smolted, favorable hydrology, turbidities and water temps. AND sac river < 25,000 cfs)